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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**NATO'S ROLE IN THE PROTECTION OF THE CIVIL
POPULATION AGAINST THE CONSEQUENCES OF
CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND
NUCLEAR TERRORIST ATTACKS**

by

Oleksandr Ovdiienko

March 2005

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Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 2005	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE: Title (Mix case letters) NATO's Role in the Protection of the Civil Population Against the Consequences of Chemical, Biological, Radiological, and Nuclear Terrorist Attacks			5. FUNDING NUMBERS	
6. AUTHOR(S)				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) <p>The rapidly growing threat to civilian populations from different terrorist organizations and nuclear states involved in regional conflicts require new unorthodox solutions. The purpose of this work is to analyze steps that have been taken on the European continent before and after September 11 in order to create a new, more efficient system of protection of the civilian population against CBRN terrorist attacks, and to explore NATO's role in the most problematic issues.</p> <p>The research examines what was done within NATO since 1998 by members of the Euro-Atlantic Partnership Council in the field of improving population protection against the consequences of CBRN terrorist attacks in two dimensions: national and international. This evaluation leads to the argument that supports the importance of the creation of an international system of mutual assistance in case of CBRN terrorist attacks under NATO's leading role.</p>				
14. Protection of the civilian population, CBRN terrorist attacks, NATO's role, NATO			15. NUMBER OF PAGES - 75	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	

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AGAINST THE CONSEQUENCES OF CHEMICAL, BIOLOGICAL,
RADIOLOGICAL, AND NUCLEAR TERRORIST ATTACKS**

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Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN INTERNATIONAL SECURITY AND CIVIL-MILITARY
RELATIONS**

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ABSTRACT

The rapidly growing threat to civilian populations from different terrorist organizations and nuclear states involved in regional conflicts require new unorthodox solutions. The purpose of this work is to analyze steps that have been taken on the European continent before and after September 11th, 2001 (hereinafter referred to as September 11) in order to create a new, more efficient system of protection of the civilian population against CBRN terrorist attacks, and to explore NATO's role in the most problematic issues.

The research examines what was done within NATO since 1998 by members of the Euro-Atlantic Partnership Council in the field of improving the population protection against consequences of CBRN terrorist attacks in two dimensions: national and international. This evaluation leads to the argument that supports the importance of the creation of an international system of mutual assistance in case of CBRN terrorist attacks under NATO's leading role.

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I. INTRODUCTION

A. BACKGROUND

Experience shows that most NATO members and partners are quite ready to handle natural types of disasters and small scale technological accidents, but are very limited in their ability to efficiently respond to chemical, biological, radioactive or nuclear consequences of terrorist attacks¹. There are a number of reasons for this. First, after the introduction of modern WMD, all efforts and money were spent on the creation of systems that will allow nations to survive and to fight the enemy in a contaminated environment. Second, historically, each state created two independent types of national capabilities for protection of the population: civilian and military. Each state created civilian systems that help them protect the population against natural disasters in peace time, and military systems that are designed to save lives in an NBC environment in wartime. Third, development of these systems was not coordinated by any treaties or agreements.

After the Chernobyl disaster in 1986, a number of terrorist attacks with chemical and biological components², and the September 11 attack, it became clear that because of the high complexity of response tasks and great level of cost, no one country was capable of creating and maintaining a fully efficient system for the protection of civilian population.

The military has some capabilities that are designed for use during WMD wars. That makes national military capability extremely important, but it is difficult to use for civilian needs because of gender, age, distribution and other important differences of the civilian population. All of these differences and problems lead to understanding the importance of international coordination of future developments in the sphere of protection of the civilian population.

¹ Evidence of successful cooperation in field of disaster assistance is summarized in NATO document: *NATO's Role in Disaster Assistance*, <http://www.nato.int/eadrcc/mcda-e.pdf> (accessed Feb. 10, 2005).

² The most famous and worldwide recognized acts of such type of terrorism are related to the activities of Aum Shinrikyo, Japanese sect, that used nerve gas and bio-chemical weapons in a period from 1990 to 1998. More details can be found in book: Max Taylor and John Horgan, *The Future of Terrorism* (Frank Cass Publisher, 2000), 106-127.

After the end of the Cold War, the only international organization that remains in coordinating functions over the development of national military policies, military standards, and military assets has been NATO. That function makes NATO a unique international organization that should play a central role in researching problems related to the protection of the civilian population, finding efficient, cost-effective solutions, and creating an international system of mutual assistance in case of a CBRN terrorist attack.

B. PURPOSE

The rapidly growing threat to the civilian population from different terrorist organizations and nuclear states involved in regional conflicts requires new unorthodox solutions. The purpose of this work is to analyze steps that have been taken on the European continent before and after September 11 on national and international levels in order to create a new, more efficient system for the protection of the civilian population against CBRN terrorist attacks, and to explore NATO's role in the most problematic issues.

The two major questions of this analysis are:

- What is NATO's role in the protection of the civil population against consequences of CBRN terrorist attacks?
- What is the role of NATO members and partners in the creation of a new international system of mutual support and protection of the civil population in case of CBRN terrorist attacks?

The research examines what was done within NATO by members of Euro-Atlantic Partnership Council after September 11 in the field of improving the protection of the civilian population against the consequences of CBRN terrorist attacks in two dimensions: national and international. This evaluation leads to a theory that supports the importance of the creation of an international system of mutual assistance in case of CBRN terrorist attacks under NATO's leading role.

Chapter II presents an evaluation of risks to the civilian population and the likelihood of a CBRN attack in the contemporary world. It includes analysis of the controversy of the utilization of tactical nuclear weapons during local and regional conflicts, as well as chemical, biological weapons and dirty bombs.

Next, Chapter III analyzes national capabilities, major problems, limitations, and examples of practical improvements in the Euro-Atlantic area.

Chapter IV examines the role of NATO in the development of policies and coordination of efforts in the protection of the civil population against the consequences of CBRN terrorist attacks. The roles of the following NATO structures are explored:

- Euro-Atlantic Partnership Council;
- Civil Emergency Planning Directorate;
- Euro-Atlantic Disaster Response Coordination Center.

Finally, Chapter V draws attention to the role of bilateral civil-military relations in NATO policy development. It is a case study of US-Ukrainian civil-military relations in sphere of protection of the civilian population against consequences of CBRN attacks and technological disasters. Moreover, this author looks at the mutual benefits from such relations.

In conclusion, the evaluation leads to a theory that supports the importance of the creation of an international system of mutual assistance in case of CBRN terrorist attacks under NATO's leading role.

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II. THE LIKELIHOOD OF A CBRN ATTACK IN THE CONTEMPORARY WORLD

A. INTRODUCTION

Since the Manhattan Project and the introduction of nuclear weapons in 1945, it became clear that the size of nuclear devices could be small enough to be portable. That discovery created two problems: tactical utilization of small-sized nuclear weapons on the battlefield and protection against smuggling of such nuclear devices through the borders. Since 1945, the world has not become safer. Nuclear systems were multiplied and divided on tactical and intercontinental groups. By the end of the bipolar world, proliferation of WMD became the highest threat all over the world. Because of the great emphasis of US, UN, NATO, EC, and other national and international players, nuclear sources, technologies, and weapons remain under the states control and regular international inspections, while control over the chemical, biological weapons and dirty bombs are an extremely difficult task. Basic components for the development and production of such weapons can be found in many enterprises, factories, or even waste yards.

Taking into consideration earlier mentioned differences in field of control over nuclear weapons and the rest of the CBRN components, this analysis will be addressed to the likelihood of utilization of a tactical nuclear weapon in a post bipolar world and risks related to the possibility of chemical, biological, and dirty bomb attacks.

B. CONTROVERSY OF TACTICAL NUCLEAR WEAPON UTILIZATION

Historically and practically, the term “Tactical Nuclear Weapon” has very vague definition. The term was born in the U.S. after the success of the Manhattan Project and detonation of the first nuclear bomb on July 16, 1945. That detonation and scale of nuclear power detonation initiated serious debates about possible strategy and tactics of nuclear weapon utilization. From the very beginning, leading American nuclear scientists saw two possible scenarios. First, use a nuclear weapon as any other weapon system to support tactical offence against Japan. Second, and strongly supported by the U.S. Air Force, test it on real targets as a strategic bombardment tool. The first approach was

mainly used as a tactical one and nuclear weapons that were considered for use in support of tactical offence were named TNW.³

An alternative approach has been used in Russia. For instance, Russians believe that TNW is a nuclear weapon that meets the following characteristics:

- Short-range nuclear weapon:
 - Land-based missiles with range up to 500 km or 300 ml;
 - Sea-based missiles with range up to 600 km or 400 ml;
- Small size;
- Simplicity (simple procedure of activation, absence of electronically controlled locks, or other sophisticated security devices).⁴

Both approaches have existed for quite a long time and have never been under international treaties. As a result, nowadays, TNW is a significant part of modern nuclear arsenals. For example, nuclear arsenals of Russia and U.S. include 30-40 percent of TNW. In France and China, a nuclear weapon is almost 100 percent TNW. Israel, India, and Pakistan have only TNW (Table 1).

Russia	~ 3,000 – 4,000
U.S.	~ 1,670 – 3,300 (about 150 in Europe)
China	~ 400
Israel	~ 200
France	60 - 80
India	~ 60
Pakistan	15-48

³ The Nuclear Threat Initiative, N. Sokolov, *Tactical Nuclear Weapon* (in Russian), http://www.nti.org/i_russian/i_e3_14a.html (accessed Jan. 9, 2005).

⁴ Ibid.

Britain	0
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Table 1. Russian estimates of TNW world distribution⁵

Little has been done to control TNW. The first formal attempt to control TNW was made by George H.W. Bush in September 1991 when he announced that the U.S. was reducing TNW. In response, on October 5, Mikhail Gorbachev removed from the Soviet's frontiers land- and sea-based TNW. Some of them were destroyed, but some were put into storage facilities. Experts believe that in 1991 the world experienced the largest reduction of nuclear arsenals in history. The U.S. reduced about 3,050 TNW and USSR about 18,000.⁶ Unfortunately, these "good will" actions did not lead to a formal treaty. Therefore, mechanisms of control, accounting, and verification of TNW were not established. As one of the TNW experts underlined, "without reliable data on the vast number of Soviet-era tactical weapons, no one can be sure if any have fallen, or are in danger of falling, into the wrong hands."⁷

Taking into consideration light weight, simplicity of activation, absence of antitheft blocking systems, and other earlier mentioned potentially dangerous characteristics, risks of TNW can be grouped into the following major categories:

- *Risk of losing political control over utilization of TNW in crisis.* TNW designs were to be used as any other tactical weapons in support of tactical operations. These devices usually allocate near the forward positions or borders and have short time, and simple procedure of activation. Those characteristics make TNW easy to use by field commanders.
- *Risk of losing political control over utilization of TNW in war.* In war, TNW will be deployed along with other types of tactical weapon systems. Taking into consideration the risk of communication failure, the decision to use TNW can be delegated to the field commander.

⁵ Ibid.

⁶ Center for Arms Control and Non-Proliferation. Briefing Book on Tactical Nuclear Weapons, *What are the tactical nuclear weapons?* <http://www.armscontrolcenter.org/prolifproject/tnw/chap2.pdf> (accessed Jan. 9, 2005).

⁷ Ibid.

- *Risk of proliferation, utilization during local conflicts, and undermining regional nuclear parity.* Common belief is that TNW has low blast power. This assumption leads to development of new systems that can be usable during conventional military operations.

Taking into consideration the great amount of stockpiles of TNW, recently discovered nuclear proliferation violations, unstable long-lasting regional conflicts, desire some nations to have a nuclear weapon, and the latest attempts in Russia and U.S. to modernize TNW, the Model of Inadvertent Escalation has become important again. The Model of Inadvertent Escalation (MIE) became one of the last theories of the Cold War Era that is still relevant today. Theory analyses chances to have conventional war between nuclear states in context of interrelations between nuclear and conventional forces during conflict escalation.

Two major theories that became doctrines were predecessors of MIE. The first theory of Massive Retaliation was adapted in late 50s when the U.S. accumulated enough nuclear weapons to create two types of forces that were shared among NATO Nations: shield forces and nuclear retaliatory forces. The U.S. and NATO believed that any military actions of the USSR had to face NATO shield forces and inadvertent massive retaliation from U.S. controlled nuclear forces. In less than ten years, nuclear arsenals of the U.S. and Soviet Union reached a point when massive retaliations were impossible because of risk of mutual annihilation. In addition, most of the military conflicts between two superpowers took place in third world countries. The new strategic concept was adapted in 1968. This concept included three types of military responses: direct defense by conventional means, direct escalation, and general nuclear response. The main idea of this concept was to create a system that allowed solving low-level conflict without going to the major nuclear conflict. One of the most famous examples of this strategy was the Vietnam conflict when both superpowers fought each other on the territory of a third country, even used chemical weapons, but it did not lead to a nuclear war. The next logical step was to question whether it possible to fight other nuclear states by conventional means without going to total nuclear war or what was the likelihood of only a limited nuclear war. One of the latest answers in the Cold War period was the Model of

Inadvertent Escalation. The Model is based on three elements of previously existing theories:

- “Security Dilemma” of Robert Jervis;
- “The application of organization theory to the behavior of military organizations”; and
- “Fog of war” of Carl Von Clausewitz.⁸

The goal of the Model of Inadvertent Escalation is relevant not only to modern international relations and high-level decision makers but also to the analysis of this work because the Model allows answers to whether or not nuclear states can fight conventional war and not use nuclear weapons, especially if they have a tactical nuclear weapon. The answer to this question would eventually lead to the applications in regard to the protection of the civil population in the aftermath of it.

During the Cold War, Security Dilemma was seen as a problematic part of the U.S. – Soviet relations in correlation with NATO – Warsaw Pact relations. Nowadays, when the bipolar world is over, it is extremely important because of regional antagonist relations and long lasting conflicts between other nuclear states: India and Pakistan, Israel and Iran, North Korea and South Korea, China and USA, and other. However, the five basic components of Security Dilemma still suggest that conventional military conflicts in a vicinity of nuclear states or their aliases with much certainty can lead to the nuclear escalation. To support this point it is appropriate to provide some analogy with B. Posen’s theory that described components of Security Dilemma in the following way:

- Nuclear forces have extremely high value for each side of conflict. That leads to the conclusion that if nuclear forces were to be threatened by the other side, civilian leaders might consider using them rather than “losing” them.
- Defensive conventional military operations can be misunderstood as offensive operations against nuclear forces.

⁸ Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Cornell University Press, 1991), 12.

- The results of enemy nuclear forces are devastating, but results of conventional war are uncertain for political leaders. Political leaders usually try to avoid uncertainty.
- If the other side is threatened and conducting defense maneuvers, any further actions or maneuvers of the opposite side will be recognized as more threatening.
- During conventional military conflict, each side will try to be more efficient in a much shorter period than in peace. That might lead to activation of nuclear plans.⁹

The second element of the Model of Inadvertent Escalation examines the offensive nature of military attitude and tendency for autonomy. This approach evaluates two dimensions: planning and offensive actions in crisis or war,

Historically, offensive military strategies and operations have helped military organizations evade civilian control. The advocacy of offensive strategies has been a vehicle for the pursuit of organizational size, wealth, and autonomy in the time of peace. In the time of war the pursuit of offensive actions without seeking civilian concurrence, or in actual violation of civilian instructions, has been common.¹⁰

There is no reason to disagree or believe that military forces are tending to be more peaceful organizations under civilian control. The outcome of such an historical approach is clear – offensive military nature, plans, and actions eventually will lead to unavoidable contact between conventional and nuclear forces.

Finally, escalation of the conventional military conflict to the nuclear war can be result of the failure of the command, control, or intelligence. This failure historically called “fog of the war.” “Fog of the war” affects life in two major dimensions:

- High level decision-makers and policy-makers might lose control over military operations; and

⁹ Ibid, 1-28.

¹⁰ Ibid, 19.

- Can create conditions of fear that the enemy can launch a successful surprise attack.¹¹

This is a standard problem, “that soldiers face, and they know something about warfare; it would be worse for civilians. Not only might this difficulty help to cause inadvertent escalation but it may exacerbate potentially escalatory situations created by offensive acts.”¹² As a result of confusion, false information or misinterpretation of facts and one of the nuclear adversaries might decide to use nuclear weapon as the last and the most powerful reserve.

The practical applications of the Model of Inadvertent Escalation are still useful today as well. Since 1945, numerous calculations and predictions in terms of possible scenarios of the large-scale conventional conflicts in the middle Europe have been made. U.S., Soviet, and European military and civilian strategies through comparison of the quantitative and qualitative characteristics of the NATO and Warsaw Pact usually came to the same result that is important even during cotemporary conflicts: if land forces and especially the air power successfully destroy sensitive strategic targets and threaten to destroy nuclear forces and exterminate state leaders, that very likely will lead to nuclear strike. One of the latest examples of this logic is escalated relations between the U.S. and North Korea. On the one hand, the U.S. has great intelligence, superior air power, the greatest military recourses, and the latest technologies that allow for the conducting of the most efficient and fastest operations. On the other hand, knowledge about North Korean nuclear capabilities is limited. Today, only estimated amounts of nuclear weapons are known. Some time ago there was seen a test of a missile that passed Japan and theoretically could reach U.S. soil. Therefore, the Cold War-time question of “whether North Korea will use nuclear weapon if U.S. land forces and especially the air power successfully destroy sensitive strategic targets, threaten to destroy nuclear forces and exterminate state leaders?” becomes rhetorical.

Finally, the latest Russian and U.S. decisions to develop new generations of nuclear weapon do not make the world safer. These developments might become triggers

¹¹ Ibid, 19-23.

¹² Ibid, 20.

for other nations to increase their own efforts, especially in terms of TNW. The goal of such research is similar: make nuclear weapons useable. The U.S. is working on an earth-penetrating TNW, while Russia is building a weapon that might minimize the effectiveness of antimissile protection.

Nowadays, international treaty forbids nuclear testing in the atmosphere, but high-level policy makers and decision makers are unlikely to go to war with a weapon that has never been tested. Both types of new weapons have been designed and can be tested only on real targets that are on the ground or in the atmosphere. Such a test might change the global approach to an international treaty and other countries might decide to do it as well. Obviously, the next step would be the decision to use this weapon in real battle conditions. On the one hand, history knows only one such decision made by the U.S. President in 1945,

Having found the bomb we have used it. We have used it against those who attacked us without warning ..., against those who have starved and beaten and executed ... prisoners of war, against those who have abandoned all pretense of obeying international laws of warfare. We have used it in order to shorten the agony of war, in order to save the lives of thousands and thousands of young ...¹³

On the other hand, such decisions with much certainty might trigger a chain reaction of similar decisions in regional conflicts. Moral and international liability to keep nuclear weapons out of use clearly will be thrown away.

In conclusion, analysis shows that any further practical efforts to change strategic nuclear balance, modernize existing capabilities, or go into full-scale conventional war with much certainty can lead to the utilization of nuclear weapons.

C. CHEMICAL, BIOLOGICAL WEAPONS AND DIRTY BOMBS

Before the 1995 Aum Shinrikyo attack, terrorism was generally seen as a weapon of the weak, and as the actions that create a few casualties and a lot of attention. States and international organizations did not recognize terrorism as the high priority threat. At the same time, Weapons of Mass Destruction were seen as a tool in hand and under control of states. Weapons of mass destruction were seen as a poor military tool that

¹³ PBS media enterprise. H. Truman's radio address to Japanese, *Warning to Japan*, http://www.pbs.org/wgbh/amex/presidents/33_truman/psources/ps_japanwarn.html (accessed Dec. 27, 2004).

includes three components: an agent of destruction (nuclear, biological, or chemical); a device that contains an NBC agent and makes it operable; and delivery means. While most of the attention is paid to the nuclear weapons and other state controlled classical WMD, small size, relatively easy access to the components, and extremely difficult detection makes chemical and biological weapons and dirty bombs ideal weapons in the hands of terrorist organizations. In addition, anonymity of such an attack makes retaliation a very complex task that should include a great amount of international civil-military interstate and interagency cooperation.

A previous section of this chapter illustrated how easily conventional wars or modernization of nuclear weapons, even tactical ones, can lead to nuclear war. The goal of this section is to analyze the likelihood of utilization of chemical and biological weapons and dirty bomb by non-state actors. At the end of the 1990s, some interesting studies about the threat of CBRN attacks by non-state actors had been conducted. For my analysis, I am going to use book of Richard A. Falkenrath, Robert D. Newman, and Bradley A. Thayer, *America's Achilles' Heel: Nuclear, Biological, and Chemical Terrorism and Covert Attack*.¹⁴

This book is a collection of studies that were based on the fast growing threat and increasing amount of intelligence about the interest of different groups, known as extremist organizations and terrorist networks, to obtain CBRN components or weapons. Such attempts mostly were detected in the most unstable regions and former Soviet territories. These organizations were extremely interested in the knowledge or accesses to the specific technologies, materials, or experts. The study of those times shown that in post Cold War time number of non-state actors or extremist groups that have CBRN capabilities and willingness to use it significantly increased. However, the desire to have CBRN capabilities is not always as great as the willingness to use it. This phenomenon had tight relations with eagerness to cause mass casualties among civilian population. Figure 1 provides quite obvious illustration of this logic.

¹⁴ Richard A. Falkenrath, Robert D. Newman, and Bradley A. Thayer, *America's Achilles' Heel: Nuclear, Biological, and Chemical Terrorism and Covert Attack* (The MIT Press, 1998), 1-354.

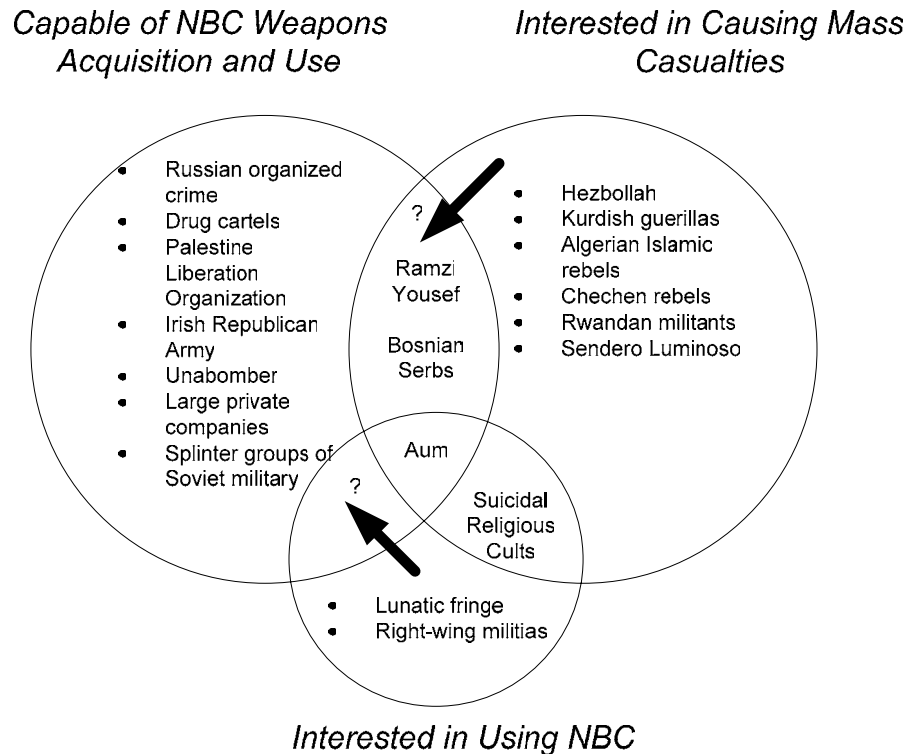


Figure 1. Non-state Actors, Mass Casualties, and NBC Weapons¹⁵

Despite the fact that September 11 dramatically changed the world, the role and disposition of extremist organizations in the global security pattern study are still relevant to modern conditions and perhaps to future developments. Groups of people who are potentially capable of CBRN weapons acquisition and use remain the same. Russian arsenals of WMD are still one of the biggest and the least guarded arsenals in the world. A weak economy, organized crime and low salaries of Russian generals might contribute to proliferation of WMD. In addition, the Soviet Union left huge contaminated and unguarded areas where tests and live WMD exercises were conducted. These nuclear, chemically, or biologically contaminated territories might become great sources for terrorist organizations. Drug cartels, the Palestine Liberation Organization, the Irish Republican Army, Unabomber type extremists, and large private companies are potentially capable of CBRN acquisitions as well.

Modern data and predictions about groups that are interested in the use of CBRN and eager to cause mass casualties are extremely dependent on interpretation of current

¹⁵ Richard A. Falkenrath, Robert D. Newman, and Bradley A. Thayer, *America's Achilles' Heel: Nuclear, Biological, and Chemical Terrorism and Covert Attack* (The MIT Press, 1998), 169.

intelligence. However, general tendencies are the same: more and more non-state extremist organizations are wanting to have access to CBRN components and eventually use them in the most effective way, which means mass casualties anywhere in the western world.

Another important aspect of the likelihood of the utilization of chemical and biological weapons, as well as dirty bombs, is the tendency of students obtaining Science, Engineering and Biological degrees in the U.S. (Figures 2,3).

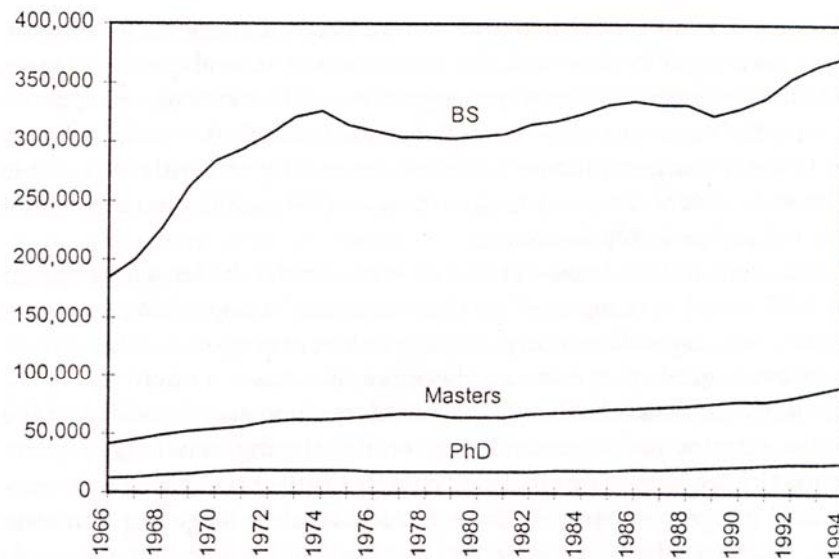


Figure 2. U.S. Science and Engineering Degrees (U.S. and foreign students), 1966-94¹⁶

¹⁶ Ibid, 172.

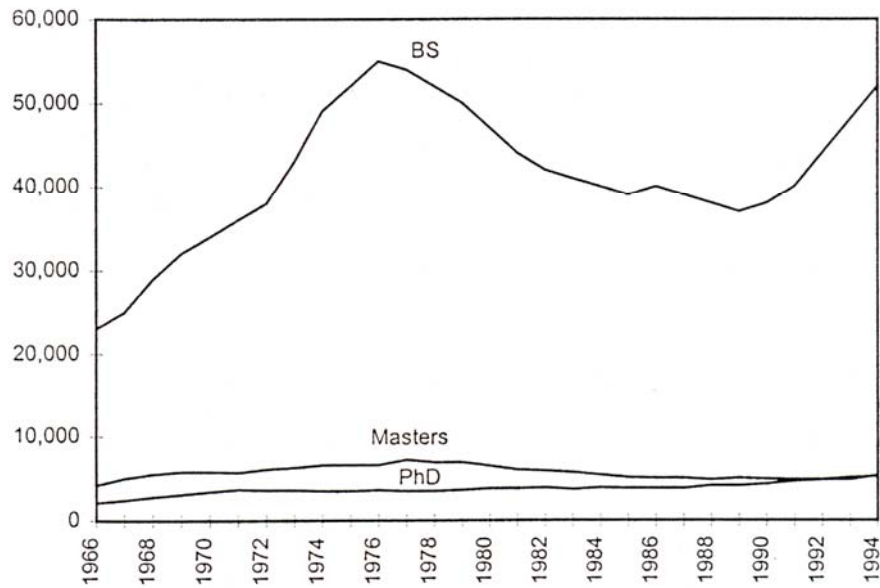


Figure 3. U.S. Biology Degrees (U.S. and foreign students), 1966-94¹⁷

This data has two important interpretations. First, and an obvious one, is the amount of people who obtained Bachelors Degrees, Master Degrees, and PhDs in Biology, Science, and Engineering has significantly increased since 1966. That creates much larger pool of people who have knowledge that potentially can be used for development of CBRN weapons. Second, annually the U.S. educated the largest number of foreign students in the world. Many of these students are from the Middle East and other unstable regions. Throughout the last few decades, the number of Middle East students in U.S. colleges and universities has been greater than students from other regions. This created unemployment among educated young people in the Middle East, and according to Professor Anne Marie Baylouny, a Middle East specialist, recent studies show that the common belief that average suicide bombers are uneducated poor people are wrong. Most of these people are educated in Western colleges or universities, have not found jobs and cannot see other ways to make changes possible or support their families. Contemporary literature has a number of illustrations of this. For instance, Robert V. Keeley in "Trying to Define Terrorism" has comprehensive analysis on modern terrorism as well as social, sociological, educational, and cultural background of this phenomenon¹⁸.

¹⁷ Ibid, 173.

¹⁸ Robert V. Keeley, "Trying to Define Terrorism," Middle East Policy 9, no. 1 (2002), 23.

Finally, detection of CBRN components became an enormous problem. Extremely small size, lightweight, unpredictable varieties of sources, and numerous ways of distribution makes chemical weapons, biological weapons and dirty bombs some of the most dangerous weapons.

D. CONCLUSIONS

Despite the common expectation that after the end of the Cold War the world become a safe place, on going regional conflicts, economical difficulties of nuclear and non-nuclear states, military ambitions, and social injustice have created conditions where terrorism started spreading all over the world. Today, no one country can be safe from different types of terrorist attacks. In addition, comparatively easy access and extremely difficult detection of CBRN components or actual WMD makes them very attractive and likely to be used by modern terrorist organizations.

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III. NATIONAL CAPABILITIES TO COPE WITH THE CONSEQUENCES OF CBRN ATTACKS

A. INTRODUCTION

The previous chapter illustrated that in the contemporary world chances of CBRN terrorist attacks or local conflicts with the involvement of tactical nuclear weapon are very high. Consequently, the likelihood of mass destructions, mass casualties, and CBRN contaminations are great anywhere in the world. Studies show that the range of types of possible attacks is extremely broad. The number of biological components that potentially can be used for attacks is in the thousands. The number of chemical components that have relatively easy access is in the hundreds. Nuclear contaminated areas throughout the world, mines, and other potential sources are at a greatly increase risk of the creation of dirty bombs.

These risks lead to the question about the effectiveness of modern systems designed to cope with consequences of possible CBRN attacks. There are two important levels of such systems: national and international. National level includes civilian and military systems and represents fundamental capabilities of the states. International level is a level of international organizations that provide the opportunity for common policy developments, cooperation, and interoperability. Consequently, NATO, as a military and political international organization, plays a critical role in this process.

Because the national level of capabilities is a basis for the international level, the goal of this chapter is to analyze national capabilities to cope with consequences of possible CBRN attacks in two major dimensions: major problems and limitations, complete with examples of actions EAPC nations have taken to improve preparedness to deal with CBRN type emergencies and the protection of the population.

B. MAJOR PROBLEMS AND LIMITATIONS

Development of national capabilities to cope with consequences of CBRN attacks has almost the same history as the development of national Civil Defense systems. Consequently, modern major problems and limitations of CBRN issues are dependent on specific historical patterns of each individual country and region.

In order to illustrate contemporary differences of national structures, two examples of organizational structure of national systems of Civil Emergency Planning are provided, which in most cases is the core of national capabilities to cope with the consequences of CBRN attacks. These examples are taken from the International CEP Handbook.

France

NATIONAL LEVEL
“The Minister of the Interior prepares rescue measures and co-ordinates the emergency resources coming under the State, territorial communities and public establishments throughout the territory. He is assisted by the defence senior civil servants. He is assisted by the Interdepartmental Crisis management Operations Centre (cogic) in fulfilling his task of co-ordinating emergency resources.” ¹⁹
ZONAL LEVEL
“The Zone Prefect co-ordinates the emergency resources in the defence zone. He has the Interregional Civil Security Operational Co-ordination Centre (circosc) at his disposal in fulfilling this task. He is assisted in the preparation of rescue measures by the general Secretariat of the Defence Zone and the Civil Security Zone Headquarters Staff.” ²⁰
DEPARTMENTAL LEVEL
“The departmental Prefect implements the public and private emergency resources and co-ordinates these resources in the department. He has the Departmental Operations Centre of the Fire and Emergency Services (codis) at his disposal. cogic is in continuous contact with the various ministries, the public and private service providers, a national network of experts and the joint-forces operations centre.” ²¹

Table 2. CEP Organizational Structure: France

United Kingdom

CENTRAL GOVERNMENT LEVEL
“The Cabinet Office, Civil Contingencies Secretariat (CCS), has responsibility for CEP in England and Wales. The CCS has a key role in helping to maintain and improve the quality of preparedness for disasters at the local level and across Central Government. A guiding principle is that the prime responsibility for handling disasters should remain at the local level.” ²²

¹⁹ *International CEP Handbook: Civil Emergency Planning in NATO/EAPC Countries*, <http://www.krisberedskapsmyndigheten.se/2090.epibrw> (accessed Feb. 27, 2005).

²⁰ Ibid.

²¹ Ibid.

²² Ibid.

LOCAL LEVEL
<p>“The local police force is usually responsible for coordinating the initial response: the local authority would usually lead during the recovery phase. If the scale of a disaster overwhelms available local resources, supplementary resources may be called in from neighboring authorities and organisations as well as from Central Government.”²³</p>

Table 3. CEP Organizational Structure: United Kingdom

Other nations also have a number of fundamental differences that were formed throughout post WWII history. Since WWII, each nation has developed its own system of population protection from the consequences of natural disasters, technological accidents, political and military crises, complex emergencies, and conventional and WMD wars. Each nation has its own restricted contingency plans and own equipment that usually are not interoperable even with neighboring countries. A great variety of relevant products and competing companies are contributing to this. Little was done to regulate or coordinate national systems. Only relatively recently have some international organizations started taking practical efforts to coordinate policies, create requirements, conduct international exercises and educational programs. In this regard, this analysis attempts to present common problems and limitations of national capabilities in the sphere of minimizing consequences of possible CBRN for the population through the prism of *historical developments, international organizations, and adaptation of national legislations*.

The history of major problems and limitations of the creation of national capabilities has similar time frame and key sequences, but different outcomes, in all nations. The first attempt to create a system that could protect the population was made during the Second World War. Originally, the newest system of protection was not designed to cope with weapons of mass destruction. History knew only some localized gas attacks on battlefields and some speculations about attempts to use diseases as a weapon. Before WWII, civilian population was never used as one of the main military targets. In the twenty century, most of the great battles had taken place out of major cities. Even the invention of long-range artillery with enormous blasting power, and an airplane that was capable of dropping light bombs and tanks did not change pattern of

²³ Ibid.

strategic thinking. Only later, when technology started allowing for extremely maneuverable armies, did it become clear that one of the most important factors that lead armies to victories were urban industrial centers. Industrial centers were responsible for the production of any supplies that kept armies moving and fighting. Besides military importance of urban areas, Fascism saw whole nations as the target for the military machine. Consequently, adversaries faced the situation where they were forced to create national systems for the protection of the civilian population.

The simple observation posts, fire brigades and some military units quickly were turned into systems that had the task of minimizing casualties among civilians, warn the population about air strikes, and, in some cases, provide defense of the internal state territory. Only after the time when the U.S. used the A-bomb in Japan and the USSR tested the first nuclear device, national systems started modifying into civil defense organizations that preliminary were called to minimize civilian casualties in case of another World War or WMD attacks.

In the beginning, only the U.S. and USSR conducted tests of modern types of WMD that could provide models for estimations of civilian casualties in case of WMD attacks. These tests and results were extremely classified. In order to prevent information flow, both sides shared as little information with its own allies as possible, which created different perceptions and anticipations in countries that lead to diverse solutions and planning of future civil defense systems. No overarching coordination body, international organization, or multinational agreement existed at this time.

Developments of international organizations have close relations with major problems and limitations of national capabilities to cope with consequences of CBRN attacks. The beginning of international developments was associated with the creation of NATO and the Warsaw Pact. The “iron curtain” not only separated the world but also presented a new type of warfare and possible battlefields such as Central Europe and Germany. For instance, the first NATO Strategic Concept for the Defense of the North Atlantic Area had three key objectives. One of them was to “ensure the ability to carry out strategic bombing promptly by all means possible with all types of weapons, without exception. This is primarily a U.S. responsibility assisted as practicable by other

nations.”²⁴ A similar type of concept was adapted by the Warsaw Pact as well. It was a beginning of a new type of research related to the survivability and sustainability of troops, civilian population, agriculture and livestock during WMD conflicts. Both sides had tested varieties of structures, facilities, and infrastructures in order to determine possible countermeasures and create systems of protection. One of the most well known places for such researches was a U.S. site,

Camp Desert Rock, also known as Desert Atom Camp, Nevada, was home to the U.S. Army's Atomic Maneuver Battalion in the 1950s. More than 2,300 soldiers were trained here in 1955...The troops, from all four services, were deployed. Many observed the detonations from trenches, tanks and armored personnel carriers at distances of 2,500 to 7,000 yards.²⁵

Knowledge gained during WMD related research was used for minimizing possible civilian casualties. In the 1950s, the U.S., Europe and the USSR launched huge programs that were called to build individual and collective shelters, teach the population what to do if they observe indications of WMD, and keep reserves of food and water. However, despite the common awareness and broad efforts, almost nothing was done for the unification of standards and efforts among states. Almost each individual state built its own system of planning for protection and designed its own equipment for these purposes. Moreover, knowledge about live WMD and specialized equipment remained in the hands of National Armed Forces.

Eventually, when the Cold War was over, systems of civil defense started turning to the system of civil protection. The new system was created with the intent to rescue people during emergencies, disasters, and technological accidents. Each state started modernization of its own national system in parallel with first attempts to create an international system of mutual assistance. In this regard, the Chernobyl disaster became an important event in understanding that no one state can deal with modern CBRN threats

²⁴ NATO website, *Note by the Secretary to the North Atlantic Defense Committee on the Strategic Concept for the Defence of the North Atlantic Area (1 Dec 1949)*, www.nato.int/docu/stratdoc/eng/a491201a.pdf (accessed Feb. 14, 2005), 6.

²⁵ Department of Energy, *Camp Desert Rock*, <http://www.nv.doe.gov/news&pubs/publications/historyreports/news&views/camp.htm> (accessed Feb. 14, 2005).

alone. Then events of September 11 again stressed the importance of mutual collaboration in the protection of the civilian population.

Before the end of the Cold War, international organizations mostly recognized the world in Westphalian dimension²⁶: when state is a center of international relations and a tool of solutions of interstate disagreements,

Those who see peacekeeping in Westphalian terms argue that its role in global politics should be limited to insuring the peaceful settlement of disputes and orderly relations *between* states.²⁷

At that time, this approach characterized most of the interstate relations and obviously the sphere of the protection of the civilian population. International organizations, states and other institutions saw one of the fundamental roles of any state organization was the system of protection of its own population. As a result, most of the states created two separate structures:

- Civilian organizations that usually incorporated different search and rescue units, fire brigades, and other emergency crews; and
- Military based substructures that usually were a part of Ministries of Defense, and had a priority of troop's NBC protection.

Parallel developments of civilian and military structures in each single state lead to the creation of unique national civilian capabilities and military recourses that were inaccessible for civilian services. Consequently, each state was developing two un-interoperable systems that had been based on different approaches, goals, equipments, and training.

The first significant changes on an international level came when the wall between two sides of the Cold War started melting and world relations started turning into post-Westphalian: relations were based on the understanding of the liberal-democratic peace theory,

²⁶ Alex J. Bellamy, Paul Williams and Stuart Griffin, *Understanding Peacekeeping* (Polity Press, 2004), 2.

²⁷ Ibid, 2.

This perspective suggest that liberal relations between states require liberal-democratic societies within states, because it assumed that the way that a particular state conduct its international affairs is inextricably connected to the nature of its domestic society.²⁸

That theory lead to the understanding that threats to international peace does not lie in the sphere of interstate conflicts, but most likely may be a result of internal problems and conflicts. By adopting this logic, it soon become clear that internal state problems can not only be religious, ethnic, regional, or tribal violence, but also natural disasters, technological accidents, or combinations of factors.

One of the first of international organizations that made practical efforts in the coordination of humanitarian assistance was the United Nations. However, only in the 1990's did the UN start developing policies, regulations, and standards in the field of international disaster response. One such example was the creation of the International Search and Rescue Advisory Group (INSARAG),

INSARAG was established in 1991, following initiatives of the international search and rescue teams who operated in the 1988 Armenia earthquake. The Field Coordination Support Section (FCSS) located within the Emergency Services Branch (ESB) of the Office for the Coordination of Humanitarian Affairs (OCHA) in Geneva functions as the INSARAG Secretariat.²⁹

Very quickly, the UN became a world-recognized leader in the sphere of the protection of the civilian population. Other international, regional organizations and states started to coordinate their own policies and guidelines with the UN. Examples of such actions were the creation of unified guidelines for emergency responders in Northern America, European Union and establishment of Euro-Atlantic Disaster Response Coordination Center in NATO. All of these relatively new developments illustrate great attention to the population protection from the point of view of international and regional organizations as well as the tendency to minimize differences and overcome problems of national systems and capabilities.

²⁸ Ibid, 2.

²⁹ UN Office for the Coordination of Humanitarian Affairs, *International Search and Rescue Advisory Group*, <http://ochaonline.un.org/webpage.asp?MenuID=2894&Page=549> (accessed Feb. 14, 2005).

Finally, limitations of national capabilities to cope with consequences of CBRN attacks are related to national legislations. Civilian structures of population protection have not only different equipment, training, and procedures, but also different legislation. Nowadays, international and regional organizations have overarching structures that play extremely important roles in the development of common policies, guidelines, and sometimes procedures. However, even common policies have an advisory status. No one organization can force a state to change its national legislation, adapt certain guidelines, procedures, or buy interoperable equipment.

C. EXAMPLES OF ACTIONS EAPC NATIONS HAVE TAKEN TO IMPROVE PREPAREDNESS TO DEAL WITH CBRN TYPE EMERGENCIES AND THE PROTECTION OF THE POPULATIONS

Previously in this chapter it was mentioned that modern national systems of the population protection against CBRN attacks has been formed for decades and that they include civilian and military components. Important overarching structures that only exist in the development of common policies are international organizations. Among international organizations, one of the most influential is the North Atlantic Treaty Organization (NATO).

The number of members and partners, as well as territory, makes NATO a unique political and military organization. After the last enlargement, NATO has twenty-six members and twenty partner nations. Together, members and partners cover enormous territory from Vancouver to Vladivostok. Moreover, all of them work together under one structure that is called the Euro-Atlantic Partnership Council (EAPC).

EAPC is a unique and important organization. It allows partners to actively participate in routine work of expert groups, policy development process, standardization, and almost all levels of decision-making processes. Only one limitation exists: final decisions can be made only by consensus of the twenty-six members.

EAPC creates new common policy for a period of several years and revises success after that. However, all final decisions have a status of recommendations for future developments which may or may not be implemented by governments. Consequently, a significant part of the work is happening at the state level. Moreover,

common NATO policies are heavily dependent on national capabilities and desire to contribute and cooperate.

Threat of CBRN attacks is not a completely new problem for NATO. Since the very beginning, the civilian part of NATO has had a program of Civil Emergency Planning (CEP). Originally, CEP was designed to create common approaches to readiness, survivability, and sustainability of civilian sectors of economies during the military conflicts with WMD. Usually, such approaches targeted military components and resources. Then after the end of Cold War, when former Soviet Republics and allies were invited to cooperate, NATO started paying attention to the civilian systems, institutions, and capabilities. Since then a number of actions has been taken to improve preparedness to deal with CBRN type of emergencies and the protection of the population.

One of the first and logical steps that EAPC members have agreed upon and eventually fulfilled was the creation of an inventory of national capabilities that can be used for mutual assistance in case of CBRN type of emergencies. Inventory included civilian and military capabilities, structures, and equipment. NATO Deputy Secretary General Alessandro Minuto Rizzo characterized this decision in following way:

11 September, and the acts of bio-terrorism that have followed it, have also vindicated and given new impetus to the Alliance's efforts to counter the threat posed by the proliferation of Weapons of Mass Destruction...And because we realise that this is a problem which literally knows no boundaries, we have also initiated within the context of the EAPC the preparation of an inventory of national capabilities which could be made available to assist affected Allied or Partner countries in case of such an attack.³⁰

From the very beginning, inventory played a basic fundamental role in the further development of the system of mutual assistance. The main elements of inventory are:

- Medical assistance capability;
- Radiological detection assets and networks;

³⁰ NATO on-line library, *Presentation by NATO Deputy Secretary General Alessandro Minuto Rizzo to the NATO Defense College Senior Course 99*, <http://www.nato.int/docu/speech/2001/s011203b.htm> (accessed Feb. 15, 2005).

- CBRN identification laboratories;
- Aeromedical evacuation; and
- Transportation capabilities.

Most of the NATO and National experts and executives believe that adaptation of the policy that will allow the use of NATO resources for partners are historical and extremely important. These new developments allow not only the use of NATO assets out of the NATO area, but also the use of resources and expertise of partner Nations for NATO members.³¹

Based on the inventory of national capabilities and previous experience, NATO actively works on the creation of some common minimum standards for the training, exercises, planning, and equipment. This work is not easy. NATO staff has to put together not only varieties of military and civilian systems, but also regional and national approaches to the population protection.³²

Another important idea that is actively discussed within NATO and capitals is the development of regional reserves for CBRN type of emergencies. Stockpiles in different regions and specialization of items are one of the possible solutions. Obviously, the biggest problem in this field is an inventory. States do not have a unified inventory of required goods. Consequently, NATO experiences great difficulty in adjusting national equipment and supply requirements to the suggested stockpiles inventories.³³

Among EAPC members exists intensive work in the field of improvement of border crossing procedures and the ability to effectively cooperate with each other. In this long lasting and sometimes painful process of simplifying and unifying border crossing procedures, NATO plays a critical role. After years of discussion and consultations, NATO almost managed to come up with a single standard agreement that provides

³¹ NATO on-line Library, *Aiding America*, <http://www.nato.int/docu/review/2001/0104-01.htm> (accessed Mar. 15, 2005).

³² NATO Prague Summit: 21-22 November 2002, *Partnership Action Plan Against Terrorism*, <http://www.nato.int/docu/basic/txt/b021122e.htm> (accessed Mar. 15, 2005).

³³ Video Interview with Steve Orosz, Deputy Assistant Secretary General, Civil Emergency Planning and Exercises, <http://www.nato.int/docu/speech/2003/s030902a.htm> (accessed Mar. 15, 2005).

assistance in a very short period of time by civilian and military assets³⁴. Eventually, Europe could solve the problem of border crossing in emergencies by military units with military equipment that are extremely important during CBRN type of emergencies or terrorist attacks.

Finally, some visible steps were taken to ensure readiness to CBRN types of attacks or emergencies. The Czech Republic, as the most experienced Nation in the field of NBC protection in the former Warsaw Pact, contributes to NATO's Action Plan by the creation of its own territory CBRN Defence Battalion. CBRN Defence Battalion is a multinational unit that has the following agreed upon tasks:

- Conduct deployment operations;
- Command and Control NBC defense units;
- Conduct NBC reconnaissance operations;
- Conduct decontamination operations;
- Conduct biological detection and monitoring operations;
- Provide NBC assessment and advice to NATO commanders;
- Provide confirmatory identification of NBC substances;
- Plan, coordinate and conduct sustainment operations of the battalion; and
- Force protect the battalion.³⁵

D. CONCLUSIONS

National capabilities to cope with CBRN types of attacks have a number of differences. National civilian and military structures and assets have different leadership, budgets, training, equipment, and legislation. Historically, all Nations have formed their own systems of population protection without consultation or coordination with their neighbors. However, the end of the bilateral war and large-scale terrorist attacks forced governments to find new unorthodox solutions. Consequently, international organizations

³⁴ Ibid.

³⁵ NATO HQ, *Multinational CBRN Defence Battalion - Progress Report*, <http://www.nato.int/docu/speech/2003/s031201c.htm> (accessed Feb. 15, 2005).

have tried to use own mandates and capabilities to create a new global system of mutual assistance. In this process, NATO plays a critical role because, as an international political and military organization, they provide the forum for the joint work of civilian and military organizations from a wide range of EAPC Nations.

IV. THE ROLE OF NATO IN THE DEVELOPMENT OF POLICY AND COORDINATION EFFORTS ON PROTECTION OF CIVIL POPULATION AGAINST CONSEQUENCES OF CBRN TERRORIST ATTACKS

A. INTRODUCTION

The previous chapter presented problems related to the development and utilization of national capabilities to cope with the consequences of CBRN attacks. This chapter will analyze the role of NATO as the international organization in the development of policy and coordination efforts on protection of the civil population against consequences of CBRN terrorist attacks in Europe.

Nowadays, NATO is a multi-dimensional organization in many respects. Since the creation of the North Atlantic Treaty Organization in April 1949, goals, roles, and missions have been changed and transformed. Today NATO is a civilian and military organization that heavily contributes to European and World policy developments, security environment, and includes the Euro Atlantic Partnership Council as a forum for cooperation, consultations, and mutual assistance in the huge Euro Atlantic Area³⁶.

In order to illustrate the role of NATO in the development of policy and coordination efforts on protection of the civil population, it is important to provide some historical developments and key evolution points in NATO's strategy with emphasis on population protection. In a beginning, NATO paid little attention to the problems of protection of the civilian population. Consequently, the following illustrations are present only in those parts of NATO's Strategic Concepts that have references to the protection of the civilian population.

There are six important historical points, four of which were reached during the Cold War: 1949, North Atlantic Treaty; 1949, the first Strategic Concept (DC 6/1); Overall Strategic Concept (MC 14/2) known as "Massive Retaliation"; and last Overall Strategic Concept (MC 14/3) known as "Flexible Response". The North Atlantic Treaty was created for the collective defense in provision of Article 51 of the UN Charter,

³⁶ NATO on-line Library, Speech by NATO Secretary General, Lord Robertson, *The Summit Ahead: Accession, Transformation, Capabilities*, <http://www.nato.int/docu/speech/2002/s021104a.htm> (accessed Mar. 15, 2005).

“Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs...”³⁷ NATO Treaty has no references or provisions for the protection of populations. The first NATO Strategic Concept saw population only as a vital resource of the collective defense, “This broad concept is built on considerations of geographical position, industrial capacity, population, and the military capabilities of the Treaty nations...”³⁸ The strategy of “Massive Retaliation” was the first NATO concept that recognized the protection of populations as a goal of military actions, “The objectives of these campaigns which include the nuclear strategic campaign would be to defend the populations, territories, vital sea areas and offensive striking power of NATO...” The last fundamental Cold War time NATO strategy known as “Flexible Response” recognized the protection of the populations during wartime as one of the most important tasks, “Other contingencies could arise which would not immediately and directly threaten the territories and populations of NATO but which would be of special importance and urgent concern to NATO...”³⁹

The end of the Cold War changed the approach to the security in the UN and NATO. The world become recognized in Post-Westphalian dimensions that led to the fundamental changes in the Alliance’s Strategic Concept. The first relevant NATO meeting on the level of Heads of State took place in November 1991. Results of the work were approved in April 1999 as the new Strategic Concept. Concept recognized threats to populations from proliferation NBC, means of their delivery and non-state factors. In this regard, Concept includes provision of future force composition that should take into consideration problems related with protection of population,

the Alliance's defence posture must have the capability to address appropriately and effectively the risks associated with the proliferation of NBC weapons and their means of delivery, which also pose a potential

³⁷ The United Nations, Charter of the United Nations (Chapter 7 Article 51), <http://www.un.org/aboutun/charter/chapter7.htm> (accessed Feb. 20, 2005).

³⁸ NATO, *Note by the Secretary to the North Atlantic Defense Committee on the Strategic Concept For the Defence of the North Atlantic Area*, <http://www.nato.int/docu/stratdoc/eng/a491201a.pdf> (accessed Feb. 20, 2005).

³⁹ NATO, *Final Decision on MC 14/3 a Report by the Military Committee to the Defence Planning Committee on Overall Strategic Concept for the Defense of the North Atlantic Treaty Organization Area*, <http://www.nato.int/docu/stratdoc/eng/a680116a.pdf> (accessed Feb. 20, 2005).

threat to the Allies' populations, territory, and forces. A balanced mix of forces, response capabilities and strengthened defences is needed⁴⁰

Taking into consideration the major changes in NATO's Strategic Concept and other fundamental developments within NATO after the end of the Cold War, this thesis will analyze the role of NATO in the development of policy and coordination efforts on protection of the civil population against consequences of CBRN terrorist attacks in the three following levels: role of the Euro-Atlantic Partnership Council (EAPC) and the Civil Emergency Planning Directorate; role of the Euro-Atlantic Disaster Response Coordination Center; and major problems and lessons for EAPC, NATO members and partners.

B. ROLE OF THE EURO-ATLANTIC PARTNERSHIP COUNCIL AND THE CIVIL EMERGENCY PLANNING DIRECTORATE

Since the end of the Cold War, NATO's approach to the collective defense has changed significantly. After the fall of the Berlin Wall, previously strict views in the area of operations and participants of decision-making process became looser. New security challenges and security environments brought new unorthodox solutions. Recent enemies from antagonistic military blocks were invited for discussion, cooperation, expertise, and decision-making. Two cooperation frameworks were established to ensure stability in the Euro-Atlantic region: the Partnership for Peace Program, and the North Atlantic Cooperation Council that in 1997 was replaced by the Euro-Atlantic Partnership Council (EAPC). These changes eventually evolved into the new system of protection of the civilian population against CBRN emergencies and terrorist attacks that incorporate partner nations. The two elements of this system that play a critical role in the development of policy and coordination efforts on protection of the civil population against consequences of CBRN terrorist attacks are EAPC and Civil Emergency Planning Directorate (CEPD).

EAPC as a forum for consultations on the highest political level is based on two fundamental principals: inclusiveness and self-differentiation. Inclusiveness means equal opportunity for members and partners for political consultations and practical

⁴⁰ NATO, *The Alliance's Strategic Concept Approved by the Heads of State and Government participating in the meeting of the North Atlantic Council in Washington D.C. on 23rd and 24th April 1999*, <http://www.nato.int/docu/pr/1999/p99-065e.htm> (accessed Feb. 20, 2005).

cooperation. The principle of self-differentiation allows the choosing of levels and areas of participation. Taking into consideration the levels of participation, EAPC works in the following different formats:

- *Plenary session*: discussion on common political and security issues as well as actions with limited participation of countries or personnel;
- *Limited format between NATO and ad-hoc groups of Partners*: discussion on progress and regional issues;
- *Limited format between NATO groups of Partners*: discussion on peace support operations or the Planning and Review Process;
- *Individual format between NATO and one Partner*⁴¹

Importantly, EAPC is not a closed structure. Council is

...open to the accession of other OSCE participating states able and willing to accept its basic principles and to contribute to its goals. New members may join the EAPC by joining the Partnership for Peace through signing the PfP Framework Document and by stating their acceptance of the concept of the EAPC⁴²

Two key documents are a point of EAPC concerns: the EAPC Work Plan and the Partnership Work Program. Among others, these documents include the following areas of cooperation: nuclear, biological, and chemical (NBC) proliferation and defense issues; international terrorism; and civil emergency and disaster preparedness.

Cooperation among members, partners, and NATO is not limited by scheduled meetings in different formats or different working documents. NATO, as an international organization, provides the forum for daily consultations and discussions. As a rule, members and partners have diplomatic missions to NATO. In addition, at NATO, states have experts that work in different ad-hoc groups, staff that are working for the NATO structures, interns, and other personnel. All together, diplomats, experts, members and

⁴¹ NATO Basic Texts, *Basic Document of the Euro-Atlantic Partnership Council*, (accessed Feb. 22, 2005).

⁴² NATO Basic Texts, *Basic Document of the Euro-Atlantic Partnership Council*, (accessed Feb. 22, 2005).

partners create a network of expertise and consultants that states use as a fundament for the future national and international collaboration.

Sharing experience and expertise are important features of EAPC collaboration that bring benefits not only to the member states but to partners as well. For instance, previous NATO Secretary General Lord Robertson characterized the role of the partners in the field of protection of the civil population against CBRN attacks in the following way:

This is not, however, a one-way street. NATO's response to events since 11 September has brought home that in some key areas it is the Allies who need to learn from Partners. In aspects of Civil Emergency Planning, and especially in defence against chemical and biological attack, many NATO members lag well behind Partners. The same may apply in other capability areas as well.⁴³

The other NATO structure that is vitally important for protection of the civil population against consequences of CBRN attacks is Civil Emergency Planning Directorate (CEPD). CEPD is NATO's permanent structure that includes staff from both member and partner countries and has the following broad and extremely important daily responsibilities:

- Support of the Senior Civil Emergency Planning Committee and nine subordinate boards and committees (see Figure 4);

⁴³ EAPC Conference “10 years of Partnership and Cooperation”, Speech by NATO Secretary General, Lord Robertson, *The Future of Partnership*, <http://www.nato.int/docu/speech/2001/s011026i.htm> (accessed Feb. 27, 2005).

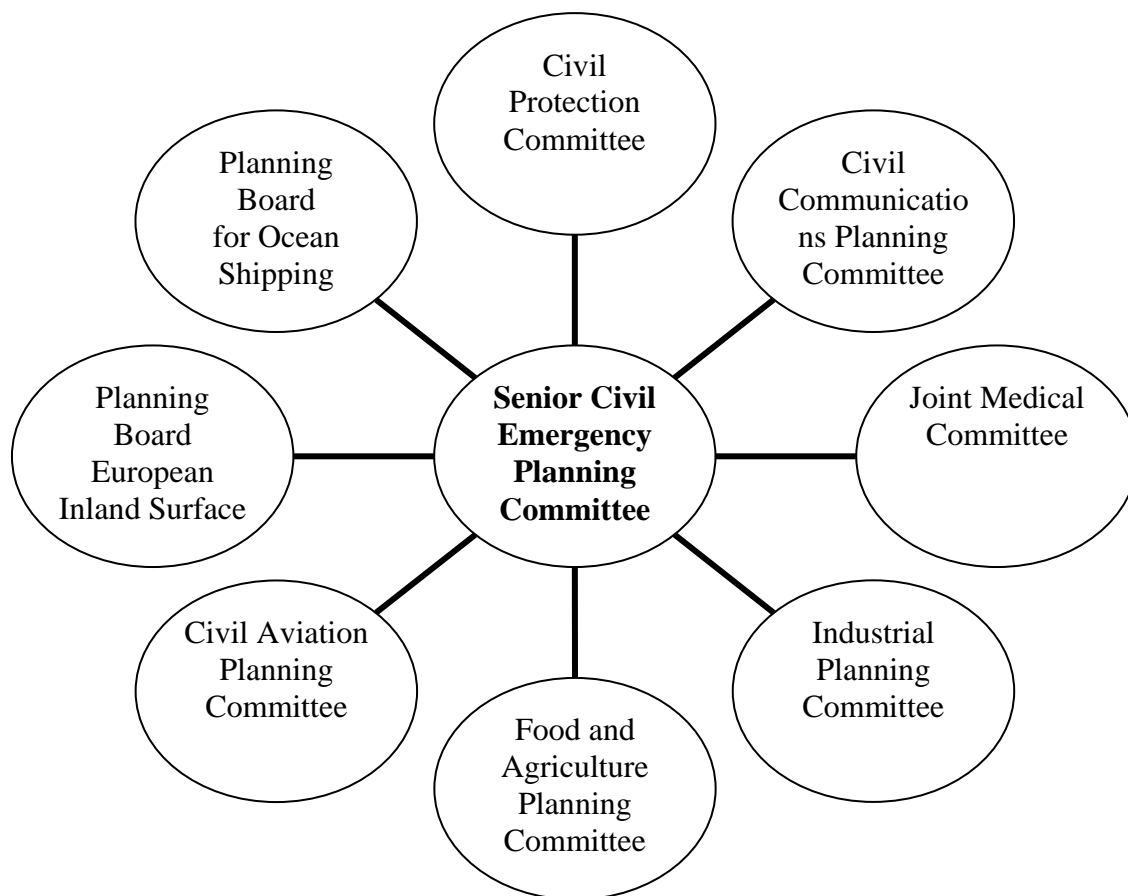


Figure 4. Senior Civil Emergency Planning Committee and nine subordinate boards and committees

- Develop arrangements and coordination of the use of NATO civil capabilities for effective protection of the civil population; and
- Develop measures and encourage participation of partners in NATO Civil Emergency Planning activities.

In addition, CEPD are supporting work of a Euro-Atlantic Disaster Response Coordination Center that plays a key role in the coordination of disaster response and protection of the civil population against consequences of CBRN attacks.

C. ROLE OF THE EURO-ATLANTIC DISASTER RESPONSE COORDINATION CENTER

The Euro-Atlantic Disaster Response Coordination Center (EADRCC) was created in 1998 in response to the Russian initiative to improve practical cooperation of NATO partners with members in the framework of EAPC and in field of disaster response and protection of the civilian population against consequences of natural and

technological disasters. The idea to create this center was to solve problems related to coordination of humanitarian assistance by military means and organizations. From the very beginning, the Center was designed to work closely with the UN Office for Coordination of Humanitarian Affairs that manages civilian governmental and non-governmental assistance.

By approving the Russian initiative, NATO created an extremely important and effective tool of coordination of assistance and information sharing in the Euro Atlantic Area. EADRCC is a unique NATO civilian structure that works 24 hours per day, 7 days per week and includes military and civilian personnel from member and partner countries. The Center is a structure that has broad responsibilities where the most important are:

- Information of Secretary General, through him EAPC and Senior Civil Emergency Planning Committee;
- Coordination of response of EAPC member upon request of affected country;
- Act as information sharing tool of EAPC⁴⁴

The second part of the Russian proposal was implemented in the form of non-standing Disaster Response Unit that, in case of emergency, works in close cooperation with EADRCC.

The next controversial development happened after the September 11 attack, when almost all EAPC countries pledged help to the U.S. At that time, it was not clear what kind attacks and where in the world they could happen in near future and whether these attacks will include CBRN components. The decision came soon,

Subsequent to the events of September 2001 in US, the EADRCC has been tasked by the Council to coordinate, upon request of the stricken nation, international assistance from EAPC countries to help deal with the consequences of terrorist attacks in the same way as it does in the case of natural and technological disasters.⁴⁵

⁴⁴ NATO website, *About EADRCC*, <http://www.nato.int/eadrcc/intro.htm> (accessed Feb. 28, 2005).

⁴⁵ Ibid.

This decision was historical and controversial for NATO. For the first time in the history of NATO, NATO invited partners to work together on CBRN issues on an equal playing field.

Despite the fact that NATO invited partners to work together on minimizing the consequences of CBRN issues only in 2001, members and partners have a long history of practical cooperation in the field of protection of the population against CBRN consequences. The biggest example of such cooperation was obviously the Chernobyl disaster. This technological nuclear disaster in the small Ukrainian town of Chernobyl showed that even states that had great human and logistic resources cannot efficiently and timely cope with CBRN types of disasters alone. Moreover, Chernobyl showed that CBRN disasters have no boundaries. The sooner neighbors and other states start helping, the more they will be able to protect their own population.

The Chernobyl disaster of 1986 became a turning point for NATO-Partner's relations in the field of protection of the civil population against CBRN disasters. Even before the creation of EADRCC, or inviting partners for cooperation in this field, NATO had conducted numerous exercises that normally include at least one event related to CBRN consequences for civil population. For instance, there are some published examples of such joint exercises in recent years where CBRN elements were played:

- Exercise "Trans-Carpathia 2000" (September 2000) – cleaning a river from an oil spill and the rescue of people in a chemical contaminated area;
- Exercise "Taming the Dragon - Dalmatia 2002" (May 2002) – rescue people from hazardous and potentially contaminated areas;
- Exercise "Bogorodsk 2002" (September 2002) - practice EADRCC procedures and EADRU capabilities in order to improve chemical biological radiological agents consequence management after terrorist attack;
- Exercise "Ferghana 2003" (April 2003) – search and rescue operations in industrial complex after devastating earthquake;

- Exercise "Dacia 2003" (October 2003) – utilization of NATO Inventory of National Capabilities of CBRN type assistance, medical treatment after radiological terrorist attack, psychological impacts on affected population and first responders, public information;
- NATO-Russia disaster response exercise and seminar (June 2004) - regional and multi-national arrangements for consequence management and response to a mass casualty and environmental disaster situation caused by a terrorist attack;
- Other.⁴⁶

These examples show a clear tendency and a wish of EAPC countries to improve their own and collective capabilities to cope efficiently with consequences of CBRN type disasters and terrorist attacks.

Another important dimension of EADRCC and CEPD daily work is constant cooperation and consultation with relevant bodies of the UN and EU. For instance, EADRCC has a permanent base liaison officer from the United Nations Office for the Coordination of Humanitarian Affairs. That vital representation allows them to avoid duplications of efforts when UN and NATO provide assistance to an affected country. Relations with EU are not so smooth nowadays, but have made great progress. The key problem in EU – NATO cooperation is the position of France. Historically, France does not have as much weight in the NATO decision-making process as they want to. However, EU is an organization where France feels more comfortable. That misbalance creates a tendency in NATO – France – U.S. – EU relations to have a great amount of discussions and sometimes tension. The position of France is to shift as much power and responsibilities to EU as possible. Consequently, NATO and all subordinate structures have experienced difficulties in adapting policies that allow effective coordination of work at an expert level. That will eventually have influence on relations between NATO and EU coordination centers and overall effectiveness of protection of the civilian population in Europe.

⁴⁶ NATO website, *Euro-Atlantic Disaster Response Coordination Center*, <http://www.nato.int/eadrcc/home.htm> (accessed Mar. 1, 2005).

D. CONCLUSIONS

Nowadays, NATO plays a critical role in protection of the civil population against consequences of CBRN terrorist attacks as well as technological disasters. Two levels of NATO involvement are important. First, EAPC serves as a political tool of cooperation among members and partners. As a permanent forum for discussion and policy development, EAPC generates recommendations and policies that allow the improvement of practical cooperation among states and other international organizations. Second, CEPD as a supporting body and EADRCC as operational structure, create a network of expertise, knowledge, and experience that allow for improving a system of protection of the civil population against consequences of CBRN terrorist attacks and technological disasters.

Finally, NATO serves as the overarching structure for national military capabilities that, in conjunction with civilian expertise and recourses, increases the effectiveness of protection of the civil population.

V. ROLE OF BILATERAL CIVIL-MILITARY RELATIONS IN NATO POLICY DEVELOPMENT

A. INTRODUCTION

Experience shows that the concept of civil-military relations has at least three approaches. First, a classical approach from the point of view of social science and democracy, tells of the importance of civilian control over the military. Second, several joint UN-NATO courses on civil-military relations and humanitarian assistance teach the importance of relations among civilian and military organizations, especially during joint operations in response on natural, technological disasters and consequences of CBRN attacks. Third, a purely military approach was developed during international operations in what was formerly Yugoslavia. That approach looks to the problems of conducting military operations in the territories that are affected by humanitarian crisis. In other worlds, it investigates how the civilian population might affect military operations in specific regions and what should be done to minimize this effect.

In the framework of NATO's relationship with partners exists three important concepts that unite civilian and military resources and institutions: Civil Emergency Planning (CEP)⁴⁷, Crisis Management (CM)⁴⁸, and State Partnership Program (SPP)⁴⁹. Civil-military relations are the most critical part of all three concepts.

This chapter is dedicated to the role of the bilateral civil-military relations in NATO policy development in two spheres: developments of US-Ukrainian civil-military relations as part of CEP, CM, and SPP; and mutual benefits from the bilateral relations for the improvement of population protection from the consequences of CBRN attacks.

⁴⁷ NATO Handbook, *Civil Emergency Planning*,
<http://www.nato.int/docu/handbook/2001/hb0809.htm> (accessed Mar. 5, 2005).

⁴⁸ NATO Topics, *Crisis Management: A Fundamental Security Task*,
http://www.nato.int/issues/crisis_management/index.html (accessed Mar. 5, 2005).

⁴⁹ National Guard Bureau, *State Partnership Program*, <http://www.ngb-ia.org/public/spd.cfm/spi/overview> (accessed Mar. 5, 2005).

B. DEVELOPMENT OF US-UKRAINIAN CIVIL-MILITARY RELATIONS IN THE SPHERE OF CONSEQUENCE MANAGEMENT OF CBRN ATTACKS AS PART OF CEP, CM, AND SPP

From the end of the Cold War, bilateral relations between NATO members and partners has played a critical role. Development of special relations between members and partners has heavily contributed to the involvement of partners to the work of NATO. Almost simultaneously, under the NATO umbrella, the three fundamental concepts that include bilateral relations were opened up for partners: Civil Emergency Planning, Crisis Management, and State Partnership Program.

Civil Emergency Planning is an area of cooperation that is designed to insure the coordination of national recourses and planning activities to support overall NATO strategy and specific activities,

Civil Emergency Planning is a national responsibility and civil assets remain under national control at all times. However, at the NATO level, national intentions and capabilities are harmonised to ensure that jointly developed plans and procedures will work and that necessary assets are available.⁵⁰

The fundamental role of CEP is ensuring civilian support of Article 5 (collective defense) and non-Article 5 operations and the support of national authorities.

The most important feature of CEP is openness for partners. All nine areas of cooperation, EADRCC and EAPC are open for partner participation (see previous chapter). NATO-partner type relations are very important.

Crisis Management is one of the security tasks that is included in NATO's Strategic Concept of 1999. CM includes collective defense crises (Article 5 operations), crisis response operations (non-Article 5 military operations), and natural, technological or humanitarian disaster operations. Partners are not always invited to take part in such operations. The main principle of participation is on a "case-by-case basis" of involvement.

State Partnership Program is a U.S. military based partnership program that supplements NATO's Partnership for Peace Program on a bilateral level. In general, each

⁵⁰ NATO Handbook, *Civil Emergency Planning*, <http://www.nato.int/docu/handbook/2001/hb0809.htm> (accessed Mar. 5, 2005).

state of the U.S. has one NATO state-partner. For instance, California and the Ukraine are state-partners.

All three concepts have a very broad approach to cooperation. However, only a few options are always open for partners: civil emergencies and minimization consequences of CBRN attacks. Those areas became the fundamental of bilateral civil-military relations between NATO members and partners, as well as between NATO and partners. Figure 5 presents a summary of all previously mentioned concepts:

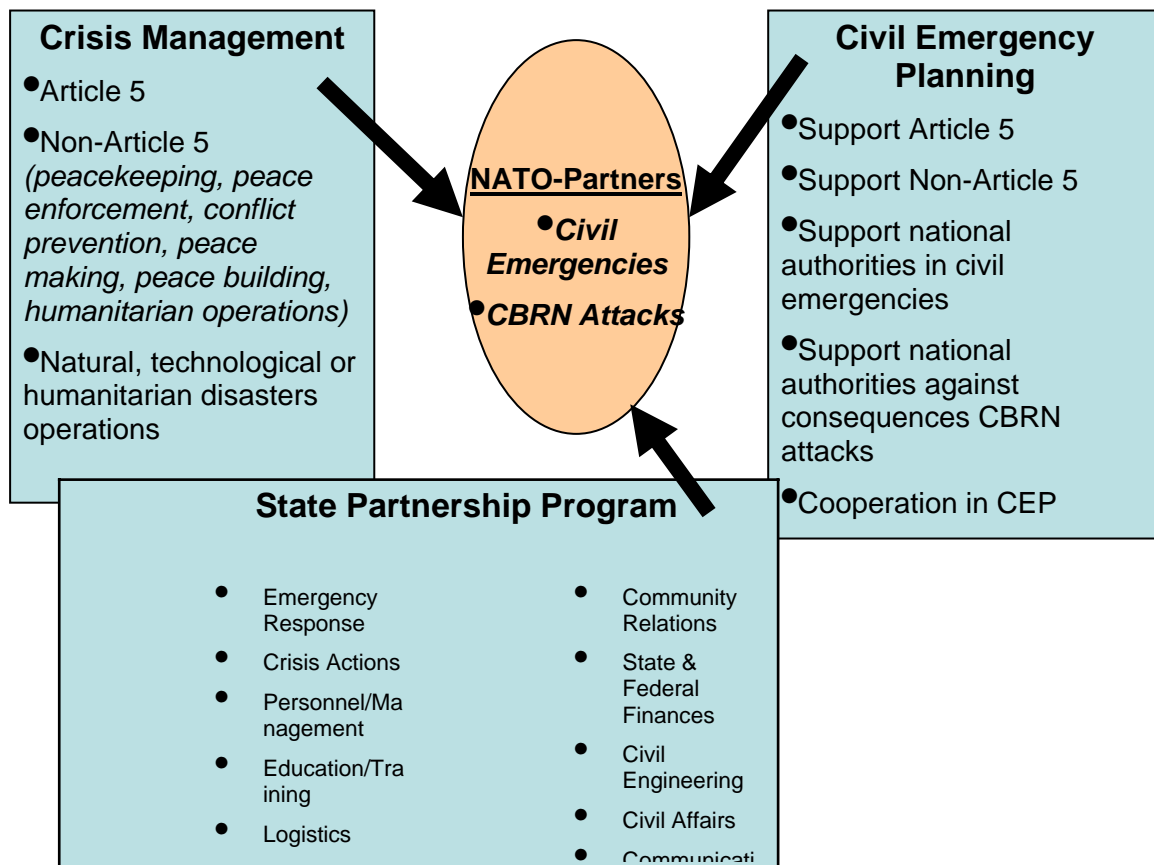


Figure 5. Summary of “NATO-Partner” cooperation in field of CM, CEP, and SPP

Figure 5 illustrates several important issues related to bilateral civil-military relations. First, CM and CEP are partially opened programs for partners. Partners cannot fully contribute to the policy development process because they are invited for permanent cooperation only in the sphere of civil emergencies and minimization of consequences of CBRN attacks. Second, the State Partnership Program can be seen as an efficient tool of involvement of different civilian and military institutions of partners that supplement CM and CEP. That happens because SPP is functioning in the framework of the overall

NATO strategy of cooperation with partners, but fully open for cooperation with any military and civilian organizations of partner states. Civil emergencies and consequences of CBRN attacks are key points of such cooperation. To illustrate the importance of such bilateral cooperation and civil-military relations, the present U.S. point of view that was formulated in the following way,

In particular, the National Guard's State Partnership Program (SPP) has been a landmark international initiative that capitalizes on the unique dual state and federal mission of the National Guard. Through the SPP, the National Guard's citizen-soldiers and airmen act as ambassadors from their communities and the nation; serve as role models to demonstrate both the cost-effectiveness and professionalism of the reserve components; share the experiences and skills gained through their civilian occupations; and facilitate the creation of personal and professional relationships between educators, members of community service organizations such as Rotary International, and business and community leaders in the United States of America and partner nations.⁵¹

Another important aspect of civil-military relations and conduct by UN, NATO, members, partners, and other players is commonly recognized procedures that lead to the resolving of crises. These procedures or patterns of actions may or may not include a military component. For instance, military operations may be a source of stability and a basis for civilian or humanitarian operations. In other cases, military operations may not be required, but the military would provide operations in support of civilian actions. These military functions are usually limited to specialized non-armed units. In some cases, unarmed military units provide humanitarian, search and rescue operations. Moreover, in most cases, military NBC units would be the first and most important assets to cope with CBRN type terrorist attacks.

A general scheme of the crisis resolution by civilian and military components is in Figure 6.

⁵¹ *Doctrine for National Guard: Cooperative Efforts with Other Nations*, http://www.ngb-ia.org/public/library_file_proxy.cfm/lid/61 (accessed Mar. 5, 2005)

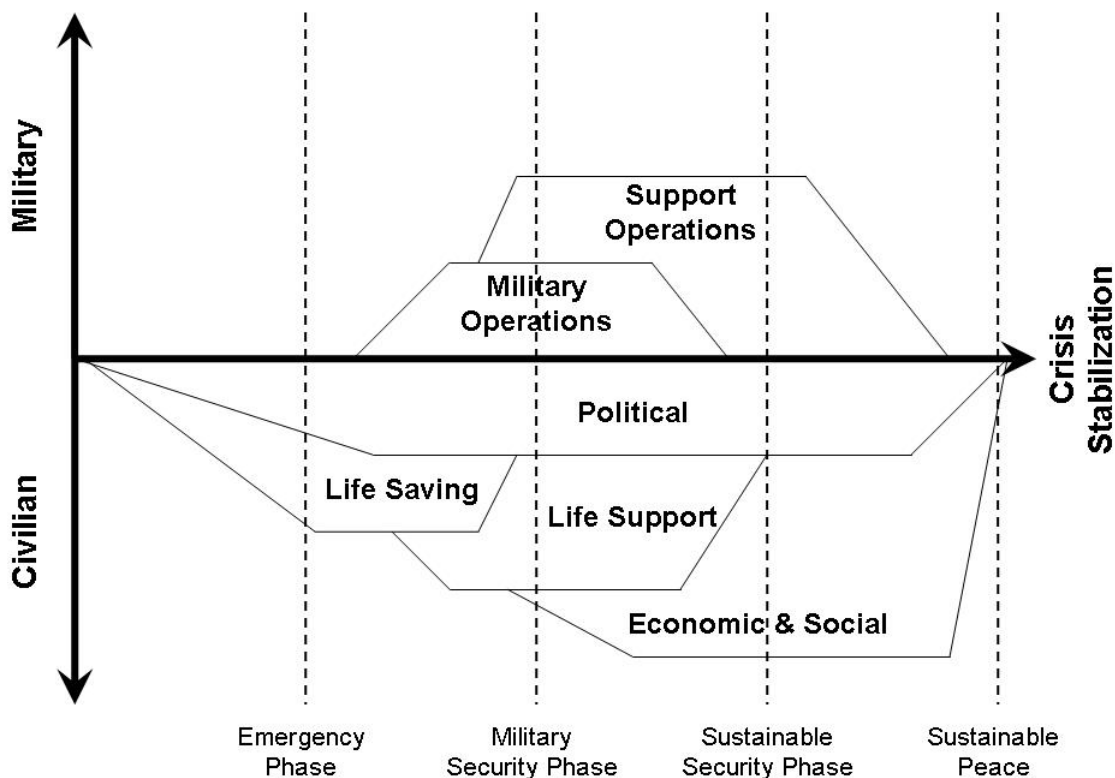


Figure 6. General scheme of crisis resolution⁵²

All concepts mentioned earlier in this chapter are relevant for the Ukraine, bilateral relations between the Ukraine-U.S., and NATO-partner policy development procedures. In order to explain interrelations among these concepts, SPP will be explored first. The Ukraine as a NATO partner country and California as state-partner of the Ukraine are democracies that enjoying civilian control over the military. Because of the SPP, Ukrainian and U.S. civilian and military organizations have a number of contacts and joint events annually on all levels from senior executive leaders to experts or personnel. These events are designed not only for experience and technique exchange, but also to approbation existing policies and the development new policies. The most interesting events in this regard are annual joint exercises called “Rough and Ready.” These exercises are truly unique because they bring together the California National Guard, Emergency Medical Services Authority, Search and Rescue units of fire brigades, paramedics and the Ukrainian Ministry of Defense, Ministry of Emergencies, Ministry of

⁵² Professor Ken Dombrowski, *Class Note of Seminar in Military Operations Other than War*, 2005.

Health, Ministry of Interior and other players. In addition, NATO EADRCC, UN OCHA, GUUAM and other international and national organizations participate as well. Scenarios are usually based on civilian type of emergencies and are always incorporating elements of CBRN attacks. Moreover, all participants incorporate the scenario of national and international procedures, policies, and existing international agreements. For example, one scenario includes the following procedures:

- Described in bilateral agreements on mutual assistance in the case of emergencies⁵³;
- U.S. Incident Command System⁵⁴;
- NATO's Standing Operating Procedures for the Euro-Atlantic Disaster Response Unit⁵⁵;
- United Nations Office for the Coordination of Humanitarian Affairs requirements⁵⁶.

The last exercise in 2004 had the following goals:

1. To work out the interaction procedures between international joint Civil-Military Coordination Center (with the participation of the Ukraine, USA, GUUAM nations, UNO and NATO), central and local executive bodies in the earthquake area during search and rescue operations.
2. To study the possibility of search and rescue of the victims by efforts of military and civil units and local populations.
3. To practice search, rescue and medical aspects during joint operations in large-scale earthquake zone by the means of civil and military units.⁵⁷

⁵³ *List of International Agreements between Ukraine and other parties*, <http://www.mns.gov.ua/inter/dogovors/dovidka.ua.php> (accessed Mar. 15, 2005).

⁵⁴ Daniel R. Smiley, Anna Loboda, Cheryl Starling, and Jeff Rubin, *Transformation from Planning to Operations: Emergency Medical Services in Disaster Response*, <http://www.disaster.org.tw/ENGLISH/ann-med/vol3no1/n22text.htm> (accessed Mar. 15, 2005).

⁵⁵ *Standing Operating Procedures for the Euro-Atlantic Disaster Response Unit*, <http://www.nato.int/eadrcc/sop/sop.htm> (accessed Mar. 15, 2005).

⁵⁶ United Nations Office for the Coordination of Humanitarian Affairs, <http://ochaonline.un.org/index.asp> (accessed Mar. 15, 2005).

By conducting such field exercises, bilateral relations provide an opportunity to test national policies of providing assistance to other affected countries, comparability of national and international policies, procedures, and interoperability. Lessons learned during such events are utilized by national governmental bodies for improving national procedures and bilateral agreements, as well as relations among numerous civilian and military relations in different fields where protection of the population against CBRN attacks is a major area of concern.

After evaluation of results, suggestions are taken to the next level: the level of international organizations. The most unique organization for this process is NATO because it allows direct participation by national experts in policy development processes. The other organizations mostly work through diplomatic missions of countries. CEP and CM becomes key areas where national inputs are collaborated into the new policies. One such key documents is a Civil Emergency Planning Action Plan that is

...enhancing civil preparedness for possible terrorist attacks with WMD, including Chemical-Biological-Radiological-Nuclear weapons... In particular, Partners associate themselves with the efforts being undertaken within the SCEPC and its Planning Boards and Committees to work on all possible options to provide support, when requested, to national authorities against the effects of any terrorist attack...⁵⁸

The Civil Emergency Planning Action Plan is a fundamental document that is based on previous experience and developments and each second year presents recommendations for future improvements of national policies in the following areas:

- Cooperation between civil and military authorities;
- Rapid response (assistance to affected country);
- General guidelines (minimal standards);
- Capabilities inventory;
- Warning and detection;

⁵⁷ Emergency Medical Services Authorities, *Rough and Ready 2004 (Ukraine) Disaster Exercise*, http://www.emsa.ca.gov/def_comm/ix062304.asp (accessed Mar. 7, 2005).

⁵⁸ Prague Summit, *Partnership Action Plan against Terrorism*, <http://www.nato.int/docu/basicxt/b021122e.htm> (accessed Mar. 7, 2005).

- Network laboratories (deployable CBRN detection facilities);
- Medical protocols;
- An enhance role of EADRCC (improvement EADRCC capabilities and providing mutual assistance to cope with CBRN attacks);
- Boarder crossing (the Model Agreement on the Facilitation of Vital Cross Border Transport Movements).

As shown in the previous analysis, the process of policy making usually builds from the bottom up and, after adaptation at the top, moving down for further implementation or adaptations of national policies and concepts. This is summarized in Figure 7. The arrow in the middle illustrates the policy development process that is starting at the practical level of bilateral civil-military relations in framework of SPP. It travels trough numerous NATO policy development bodies where partners and members work together, ending at the highest decision making body of NATO. Two thin reversed arrows along the sides of the figure illustrate the process of implementation of NATO policies on a national level. The UN and EU coordinate their own policies with NATO in order to avoid duplications and to support each other. Other international organizations are informed about policy changes.

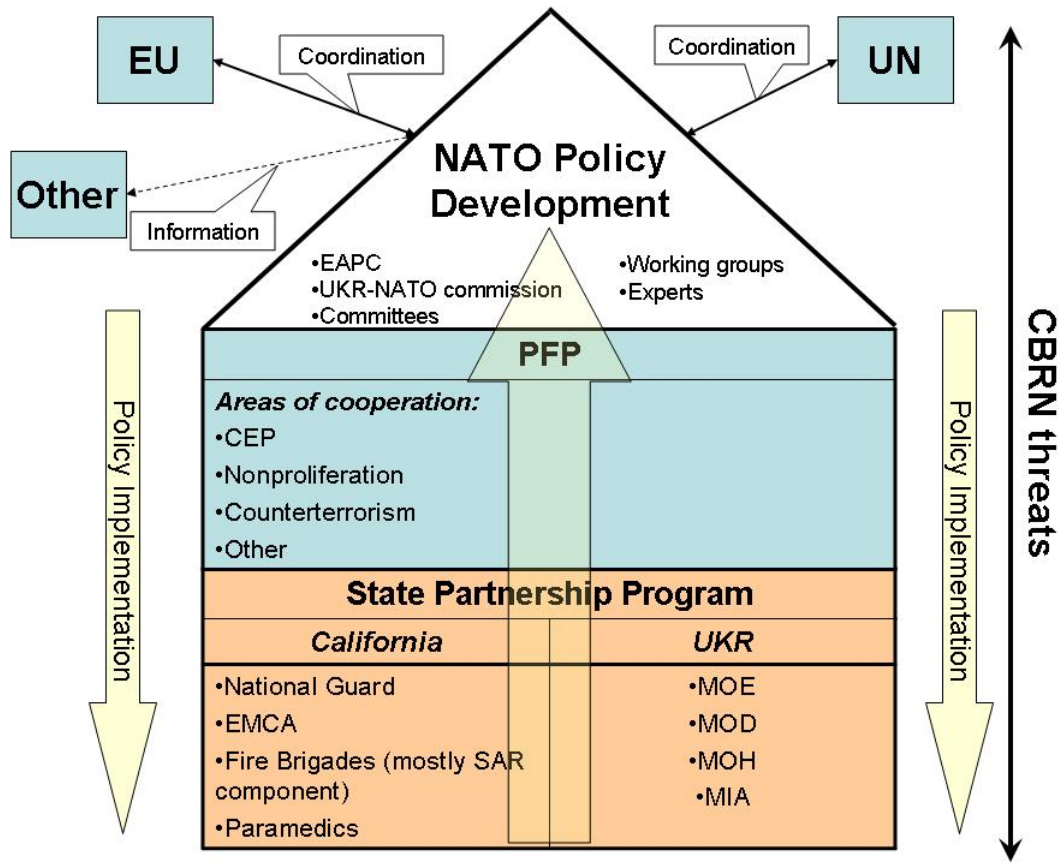


Figure 7. Policy development and implementation process

C. MUTUAL BENEFITS FROM THE BILATERAL RELATIONS FOR THE IMPROVEMENT OF POPULATION PROTECTION FROM THE CONSEQUENCES OF CBRN ATTACKS

Mutual benefits from bilateral relations for the improvement population protection from the consequences of CBRN attacks can be seen on three fundamental levels: international organizations, national, and institutional. These levels are dependent on each other and under constant improvement.

All three levels have strong formal and informal interrelations through NATO programs, concepts, and institutions. Figure 8 summarizes these relations in the context of civil-military relations.

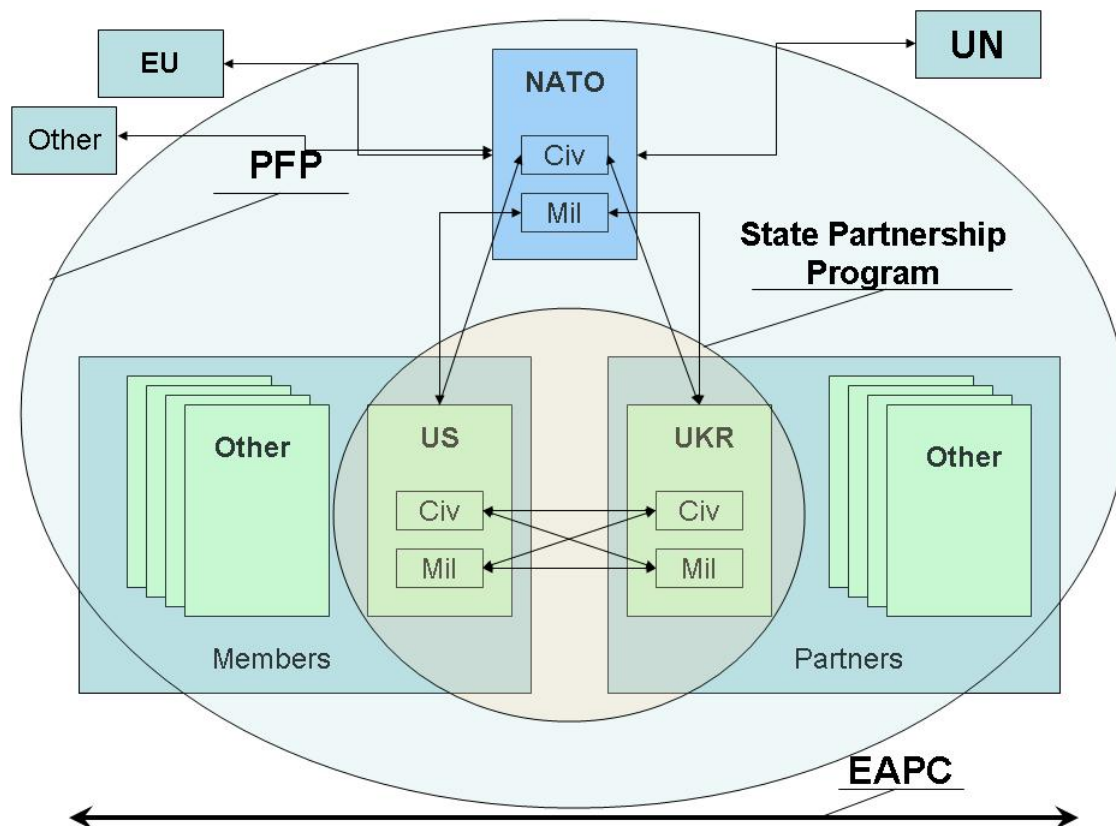


Figure 8. Interrelations of NATO programs, concepts, and institutions for improvement population protection from the consequences of CBRN attacks

On an institutional level, civilian and military organizations provide important links among national organizations and organizations of partner nations. The framework for these relations is SPP and PFP. On a national level, bilateral interstate civil-military relations serve as the basis for the policy development in EAPC. SPP and PFP work as a vehicle for EAPC cooperation. On the level of international organizations, interrelations of civilian, military, and regional international organizations help to build a safe security environment. For instance,

NATO and the European Union are working together to prevent and resolve crises and armed conflicts in Europe and beyond.⁵⁹

EU and NATO foreign ministers have reaffirmed their willingness to develop closer cooperation to combat terrorism and the proliferation of weapons of mass destruction. The institutions have already exchanged information on their activities in the field of protection of civilian

⁵⁹ NATO Topics, *NATO-EU: A strategic partnership*, <http://www.nato.int/issues/nato-eu/index.html> (accessed Mar. 7, 2005).

populations against chemical, biological, radiological and nuclear attacks.⁶⁰

Another example of the cooperation is in NATO-UN relations,

Increased sharing of information between NATO and the UN also takes place in the context of the international campaign against terrorism, following the 11 September attacks on the World Trade Centre in New York and the Pentagon in Washington. In general, working contacts between the two organisations have become more frequent and a number of high level visits take place between the UN and NATO every year. The UN remains at the core of the wider institutional framework within which the Alliance operates.⁶¹

As shown in Figure 8, most of the arrows and circles are surround NATO. That makes international level relations for the improvement of population protection from the consequences of CBRN attacks the central and the most important point. Consequently, analysis of the benefits of all levels will be built around this international level.

Previously in this chapter the role of NATO as a place that accumulates national experiences, suggestions, and generates new policies that later will go back on national level was discussed. Obviously, this is not the only example of benefits. Openness for partners, scope of tasks, and daily work of Euro-Atlantic Disaster Response Coordination Center provide numerous other benefits for individual state, bilateral interstate relations, and NATO as an international organization.

First, NATO promotes and strengthens relations and cooperation between various civilian and military organizations. For instance, EADRCC requires a single national point of contact. These requirements lead to the decision that a national coordination body, in case of emergency, crisis, or CBRN attack, would coordinate all national civilian and military recourses, as well as international assistance if needed. The national coordination center would inevitably be involved in the development of interagency cooperation procedures, training, minimal standards, and other relevant activities. Similar tendencies work at a bilateral level. Most of the states have bilateral agreements for

⁶⁰ NATO Topics, *NATO-EU: A strategic partnership*, <http://www.nato.int/issues/nato-eu/evolution.html> (accessed Mar. 7, 2005).

⁶¹ NATO Handbook, *The United Nations*, <http://www.nato.int/docu/handbook/2001/hb1501.htm> (accessed Mar. 7, 2005).

mutual assistance in case of natural, technological emergencies, crises, or CBRN type of emergencies (attacks) that require a certain level of mutual information, training, recourses, and standards. One of the biggest problems of such agreements is the absence of a single operational point of contact. Most of them require informing neighboring governments about events through diplomatic channels, which slows down the process and leads to missing vital details.

Second, EADRCC coordinates and facilitates rapid response to emergencies and CBRN attacks. Upon request for assistance by a stricken country, EADRCC is able to help other nations to decrease response time through coordination efforts and information sharing. For instance, EADRCC maintains a list of national capabilities that can be used in events of CBRN terrorist attacks for protection of the population. That information might help to combine and deliver national resources in a short time. Moreover, some bilateral relations are usually involved in it. For example, if one nation has experiences decontamination and a subsequent transportation shortage, other nations, based on bilateral agreements, might provide transportation for them. Further coordination would obviously go through EADRCC and the national coordination center of the affected country.

Third, NATO, as the overarching structure for members and partners, is the perfect place for the development of common minimal standards for protection of the civilian population against consequences of CBRN terrorist attacks. Importantly, NATO recognizes a state as a nation, but not as a number of civilian and military institutions. That leads to the creation and adaptation of common standards for any national units or other capabilities that might be used in emergencies, crises, or after CBRN attacks. On the other hand, bilateral relations, and specifically joint bilateral field events, are the main source for the development of such standards. One great example of this is the U.S.–Ukrainian exercise that provides the opportunity for the development of common tactics, procedures, and standards for western and eastern type of equipment.

Fourth, NATO and members pay a lot of attention to warning and detection systems. History shows that the most effective way to protect the civilian population against any CBRN emergencies or attacks is a timely warning. History also shows that,

due to the small size of some states and unequal surfaces, bilateral relations in this field are extremely important. In this regard, NATO plays a supportive role in the improvement of regional systems of warning and detection.

Finally, border-crossing procedures are always a problem. There are a number of practical and historical reasons for this. Some nations do not want to allow entrance for any military or dual-purpose equipment. Some nations have a long list of different types of cargo that require customs declarations and relevant payments, which can include food, clothing, and other emergency goods. A solution was suggested under the NATO umbrella and EADRCC supervision: The Model Agreement on the Facilitation of Vital Cross Border Transport Movements. Because of common standards, the Agreement provides benefits for all levels of cooperation: institutional, bilateral, and international.

D. CONCLUSIONS

Bilateral civil-military relations play a fundamental core role in NATO policy development. These relations serve as a testing polygon for existing policies and acts as the basis for the development of new effective systems. Moreover, that allows the integration of different civilian and military capabilities and structures into one effective system of protection of the civilian population against consequences of CBRN terrorist attacks, natural and technological disasters, and crises. Joint experience of the Ukraine and the U.S. illustrate how differences in western and eastern systems can be overcome and serve as a model for NATO developments.

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VI. CONCLUSIONS

The analysis presented in this thesis started with Chapter II: *The Likelihood of a CBRN Attack in the Contemporary World*, which showed that in the contemporary world, risks related to the nuclear conflict between states which have long lasting military conflicts and tactical nuclear weapons are high. Moreover, September 11 terrorist attack on the World Trade Center and the search of WMD by other terrorist groups make utilization of CBRN weapons or elements a very real possibility. Consequently, the world might witness devastating results of new attacks with the involvement of CBRN weapons or elements.

In order to minimize possible consequences of such attacks and to protect populations, states, international, and regional organizations search for possible solutions. NATO is one organization that has unique and vital assets. Traditionally, NATO unites military NBC assets and procedures with civilian willingness to participate. Moreover, members and partners have been working together since the end of the Cold War. These advantages make it possible to use NATO as the overarching structure and to create a system of mutual support and protection of the civilian population against consequences of CBRN terrorist attacks. Chapter III: *National Capabilities to Cope with the Consequences of CBRN Attacks* discussed the importance of national capabilities that contribute to an international response system and underlined the critical role of partners in the development of an effective system of mutual assistance.

Chapter IV: *Role of NATO in the Development of Policy and Coordination Efforts on Protection of Civil Population Against Consequences of CBRN* presented analysis of common problems for partners and members. Civil-military relations is one of the most difficult problems. Each state experiences some difficulty related to the differences between civilian and military institutions, assets, procedures, protocols and other features. However, taking into consideration the great relations among military under the NATO umbrella and the number of successful programs where civilian and military work together, NATO becomes one of the most influential organizations in field of protection of the civil population against CBRN attacks.

Finally, Chapter V: *Role of Bilateral Civil-Military Relations in NATO Policy Development* analyzed bilateral civil-military relations and came to the conclusion that they heavily contributed to the development of a new system of protection of the civilian population. It provided a vital environment for testing existing policies and procedures and laying the groundwork for new developments.

Overall, NATO has chosen a vital strategy for the adaptation to new security threats and is clearly becoming the leader among other organizations in the field of protection of the civil population against consequences of CBRN terrorist attacks.

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